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EXAMINER

WOZNIAK, JAMES S

ART UNIT

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2626

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/749,569	Applicant(s) SUNG ET AL.	
	Examiner JAMES S. WOZNAK	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the office action from 4/24/2008, the applicant has submitted a Request for Continued Examination (*RCE*), filed 10/24/2008, arguing to traverse the art rejection based on the limitation regarding three codebooks in the form of an adaptive, fixed, and second fixed and an alleged teaching away in Laflamme ("*16 Kbps Wideband Speech Coding Technique Based on Algebraic CELP*," 1991) (*Amendment, Pages 7-8*). Applicant's arguments have been fully considered, however the previous rejection is maintained due to the reasons listed below in the response to arguments.

2. In response to amended claims 11-12 and the cancellation of claim 15, the examiner has withdrawn the previous objection directed towards minor informalities.

3. In response to the cancellation of claim 15, the examiner has withdrawn the previous corresponding 35 U.S.C. 101 rejection.

Response to Arguments

4. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

With respect to Claim 1, the applicant traverses the corresponding art rejection on the grounds that: a.) Ozawa (*U.S. Patent: 5,487,128*) fails to discuss "an adaptive codebook retrieving unit" (*Amendment, Page 7*), b.) Laflamme et al ("*16 Kbps Wideband Speech Coding Technique Based on Algebraic CELP*," 1991) teaches away from using a full band approach for CELP coding (*Amendment, Pages 7-8*), and c.) None of the references teach using three code books in the form of adaptive, first fixed, and second fixed (*Amendment, Page 8*).

In regards to argument a.) that Ozawa fails to discuss "an adaptive codebook retrieving unit", the examiner notes that Ozawa is not relied upon to teach such a unit. Rather, this adaptive codebook retrieving unit is taught by Gao (*U.S. Patent: 6,449,590*) (*Col. 9, Lines 16-33; Col. 21, Lines 52-59; Col. 22, Lines 34-54; and Fig. 2, Elements 253 and 257*). In further response to these arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In regards to argument b.) that Laflamme teaches away from using a full or wideband approach from CELP coding, the examiner points out that the section relied upon by the applicants is directed to a background of the prior technologies in the speech coding in the art (*Section 1, Page 13*). Prior to the time of publication of the Laflamme's paper (1991) such an application of CELP coding was too complex as is detailed in this pointed out section of the Laflamme reference. In his invention, however, Laflamme discloses that CELP can be applied to a full or wide band approach and explicitly notes that "we are using a full band approach" (*Section 5, Page 16*). Thus, since the section relied upon by the applicants in their argument is

Art Unit: 2626

merely a discussion of the background art and Laflamme explicitly discloses the use of a full/wide band approach, the applicants argument that Laflamme teaches away from wideband CELP or discloses that it is impossible to use a full band approach for CELP coding of sideband speech has been fully considered, but is not convincing.

In regards to argument c.) that none of the references teach using three codebooks in the form of adaptive, first fixed, and second fixed, the examiner notes that such a structure is taught by the combination of the teachings of Gao and Ozawa. More specifically, Gao teaches the use of an adaptive codebook (*Col. 21, Lines 52-59; and Fig. 2, Element 257*) in combination with a fixed codebook structure having a multiple fixed subcodebooks that are selected based on speech classification (*Fig. 2, Element 261; and Col. 6, Lines 27-29*). Gao is lacking in the teaching of two fixed codebooks specifically a first codebook unit that outputs a difference between a codebook contribution and a target. This limitation, however, is taught by Ozawa in the form of a cascaded codebook structure wherein a first codebook produces a first codebook contribution and an error signal representing the difference between a codebook search target input and a codebook contribution candidate (*Fig. 2, Elements 200, 210, 230, 240; and Col. 7, Lines 11-39*). It is noted then that Gao teaches the adaptive-fixed codebook structure wherein the fixed codebook has a plurality of sections (*i.e., subcodebooks*), while Ozawa teaches that the fixed codebook can have a cascaded structure comprising two fixed codebooks for the benefit of reducing memory necessary for codebook storage and achieving coding that is high in performance (*Ozawa, Col. 2, Line 65- Col. 3, Line 5*). Thus, by substituting in the two-fixed codebook structure into the fixed codebook portion of Gao for this aforementioned benefit, the combination of Gao and Ozawa teaches the three-codebook structure.

The applicant presents further argument that Gao says nothing about using two fixed codebooks and that Ozawa says nothing about using an adaptive codebook (*Amendment, Page 8*). In response the examiner notes that using two fixed codebooks is taught by Ozawa and an adaptive codebook is taught by Gao, as per the above response, thus this argument is not convincing. In further response to these arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The art rejection of claims 4, 6, 9, and 11-12 is traversed for reasons similar to claim 1 (*Amendment, Page 8*). In regards to such arguments, see the response directed towards claim 1.

With respect to claims 2-3 and 7-8, the applicant argues that Chhatwal et al (*U.S. Patent: 5,457,783*) teaches away from the other prior art (*Amendment, Page 9*). In response, the examiner notes that the bi-pulse codebook is a type of random codebook that models noise-like unvoiced sounds in combination with an algebraic codebook for voiced sounds in Chhatwal (*Col. 9, Line 65- Col. 10, Line 55; Col. 13, Lines 38-67; and Col. 15, Line 1-30*), as is required in the claims. Also, Chhatwal teaches that even the traditional method is commonly implemented, well-known in the art, and still effective for modeling noise (*Col. 13, Lines 50-58*). Thus, for these reasons, it is unapparent how the concept of using different types of codebooks for different speech types, which is the relied upon portion of Chhatwal, teaches away from the other prior art. Thus, these arguments have been fully considered, but are not convincing.

With respect to Claims 5 and 10, the applicant argues that Westerlund et al (*U.S. Patent: 6,757,654*) teaches the distribution between the LTP gain and the algebraic gain, whereas the

Art Unit: 2626

presently claimed invention teach a ratio between a fixed codebook gain and other fixed gain values (*Amendment, Pages 9-10*). In response, the examiner notes that this limitation is taught by the combination of the teachings of Gao and Westerlund. Gao teaches the concept of the use of multiple fixed codebooks having associated gain factors (*Fig. 2, Elements 261 and 263*), while Westerlund teaches the a ratio between a fixed gain and *other gains* can be calculated (*Col. 21, Lines 30-45*). Thus, it is the combination of the prior art of record that teaches the aforementioned claim limitation. In response to these arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 4, 6, 9, and 11-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao (*U.S. Patent: 6,449,590*) in view of Ozawa (*U.S. Patent: 5,487,128*) and further in view of Laflamme et al ("*16 Kbps Wideband Speech Coding Technique Based on Algebraic CELP*," 1991).

With respect to **Claim 1**, Gao discloses:

A speech characteristic classification unit, which stipulates a characteristic of speech corresponding to a current frame statistically using an open-circuit pitch value and a linear prediction coefficient in which a speech signal to be coded is perceptual weigh filtered (*voiced/unvoiced classification unit, Col. 12, Lines 14-20; Fig. 2, Element 279, utilizing a perceptually weighted input speech signal having an open loop pitch value and linear prediction (LP) parameters, wherein different classes are represented by different subcodebooks, Col. 8, Line 63- Col. 9, Line 6; Col. 13, Lines 8-29; Fig. 2, Elements 219, 239, and 241*);

An adaptive codebook retrieving unit, which retrieves a pitch delay value around the open-circuit pitch value, calculates a pitch gain value, generates an adaptive codebook contribution signal corresponding to the retrieved pitch delay value, and outputs a difference between the generated adaptive codebook contribution signal and the perceptual weigh filtered signal as a first fixed codebook target signal (*adaptive codebook search around an open loop pitch lag to generate a pitch delay, gain value, and an adaptive codebook contribution, Col. 9, Lines 16-33; Col. 21, Lines 52-59; Col. 22, Lines 34-54; Fig. 2, Element 257; and a fixed codebook target signal as a difference between a perceptually weighted speech signal and an adaptive codebook contribution, Col. 9, Lines 28-33; Fig. 2, Element 253*);

A fixed codebook retrieving unit, which includes at least two second fixed codebooks according to a speech characteristic (*fixed codebook comprising a plurality of fixed subcodebooks, Fig. 2, Element 261*), selects a second fixed codebook according to the speech characteristic (*subcodebook selection based on speech classification, Col. 6, Lines 27-39; and Fig. 2, Elements 261, 275, 279*), and retrieves second fixed codebook indices that can express the fixed codebook target signal most properly (*fixed codebook search based on a generated target*

Art Unit: 2626

signal (*Col. 9, Lines 28-33*), and fixed codebook gain values (*fixed codebook gain, Col. 9, Lines 34-40; Col. 36, Line 45- Col. 37, Line 35; and Fig. 2, Element 263*);

A parameter multiplexer, which quantizes and multiplexes the speech characteristic information, the pitch delay value, the pitch gain value, the first fixed codebook index, the fixed codebook indices, and the fixed codebook gain values, makes them as a bit stream, and transmits the bit stream to an external speech decoding terminal (*quantizing and multiplexing all generated speech parameters into a bit stream at a multiplexer, Col. 6, Line 57- Col. 7, Line 11; Col. 41, Lines 15-17; and Fig. 4, Element 419; and decoder, Fig. 5*).

Although Gao discloses a speech encoder comprising an adaptive codebook and a second fixed codebook having multiple subcodebooks, Gao does not teach two fixed codebook units, specifically a first codebook unit that outputs a difference between a codebook contribution output and a searching input to the first codebook. Ozawa, however, discloses a cascaded codebook structure wherein a first codebook produces a first codebook contribution and an error signal representing the difference between a codebook search target input and a codebook contribution candidate (*Fig. 2, Elements 200, 210, and 220; and Col. 7, Lines 11-39*) and a second codebook produces a second codebook contribution based on the error generated using the first codebook (*Fig. 2, Elements 230 and 240*). Ozawa further teaches a first codebook structure comprising a single codebook and a second codebook structure comprising multiple subcodebooks (*Fig. 2*) and mentions generating gain to be associated with a codebook contribution (*Col. 1, Lines 37-40*).

Gao and Ozawa are analogous art because they are from a similar field of endeavor in speech signal encoding. Thus, it would have been obvious to a person of ordinary skill in the art,

Art Unit: 2626

at the time of invention, to modify the teachings of Gao with the cascaded codebook structure taught by Ozawa in order to implement a speech coding scheme that reduces memory necessary for codebook storage and is high in performance (*Ozawa, Col. 2, Line 65- Col. 3, Line 5*).

Although the combination of Gao and Ozawa discloses all of the features of the claimed invention and Gao further discloses CELP coding (*Col. 8, Lines 5-7*), Gao and Ozawa do not specifically mention wideband speech signal encoding. Laflamme, however, recites the ability to encode wideband speech using a CELP coding scheme (*Section 1, Page 13*).

Gao, Ozawa, and Laflamme are analogous art because they are from a similar field of endeavor in speech signal encoding. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Gao in view of Ozawa with the concept of wideband speech encoding taught by Laflamme in order to encode a higher quality speech signal (*Laflamme, Section 1, Page 13*).

With respect to **Claim 4**, Gao further discloses:

The second fixed codebook gain values include all gain values of each of the second fixed codebooks (*second fixed codebook gain that is calculated for all fixed subcodebooks, Col. 36, Line 45- Col. 37, Line 35*).

Claim 6 recites the corresponding method performed by the system described in claim 1, and, thus is rejected under similar rationale.

Claim 9 contains subject matter similar to Claim 4, and thus, is rejected for the same reasons.

With respect to **Claim 11**, Gao discloses:

Art Unit: 2626

A parameter demultiplexer, which demultiplexes a bit stream transmitted from an external speech coder (*demultiplexer, Fig. 5, Element 513, that demultiplexes a bit stream from a remote speech encoder, Col. 7, Lines 18-27*), including parameters, such as speech characteristic information, an adaptive codebook pitch delay value, an adaptive codebook pitch gain value, fixed codebook indices, and second fixed codebook gain values and restores the parameters (*transmitted speech parameters that form a bitstream generated by an encoder (Col. 6, Line 57- Col. 7, Line 10) and are received by a decoder including: a fixed codevector representative of a fixed subcodebook corresponding to different speech characteristics, Col. 6, Lines 27-39; an adaptive codebook pitch delay, gain value, and an adaptive codebook contribution, Col. 9, Lines 16-33; Col. 21, Lines 52-59; Col. 22, Lines 34-54; Fig. 2, Element 257; fixed codebook innovations, Col. 9, Lines 28-33; and fixed codebook gains, Col. 9, Lines 34-40; Col. 36, Line 45- Col. 37, Line 35; and Fig. 2, Element 263*);

An adaptive code vector generator, which obtains an adaptive code vector corresponding to the adaptive codebook pitch delay value and the adaptive codebook pitch gain value (*adaptive codebook generator that generates an adaptive codevector based on the pitch delay index generated at an encoder, Col. 7, Lines 28-43; and Fig. 5, Element 515*);

A second fixed code vector generator, which selects a second fixed codebook from a plurality of second fixed codebooks using the speech characteristic information (*decoder comprising a fixed codebook, wherein the fixed codebook contains indexes corresponding to a fixed codebook utilized at a decoder having multiple fixed subcodebooks corresponding to a speech characteristic, Fig. 5, Element 519; Fig. 2, Element 261; Col. 6, Lines 27-39; and selecting fixed codevectors based on an indices corresponding to the different subcodebooks,*

Art Unit: 2626

thus effectively selecting the subcodebooks, Col. 7, Lines 28-43), obtains a fixed code vector corresponding to the second fixed codebook index and the second fixed codebook gain value (fixed codevector and associated gain, Col. 7, Lines 28-43);

An adder, which adds the adaptive code vector and the first and second fixed code vectors to one another and generates an excitation signal (*adder (unlabeled) in Fig. 5; and generated excitation signal, Col. 7, Lines 28-43*), and wherein the excitation signal is linear prediction synthesis filter processed and post-processing filter processed and is generated as a speech synthesis signal (*LP synthesis filter processing and post filtering, Col. 10, Lines 9-21; and Fig. 5, Elements 531 and 535*).

Although Gao discloses a speech decoder comprising an adaptive codebook and a second fixed codebook having multiple subcodebooks, Gao does not teach two fixed codebook units, specifically a first codebook unit that outputs a first decodable codevector. Ozawa, however, discloses a cascaded codebook structure wherein a first codebook produces a first codebook contribution and an error signal representing the difference between a codebook search target input and a codebook contribution candidate (*Fig. 2, Elements 200, 210, and 220; and Col. 7, Lines 11-39*) and a second codebook produces a second codebook contribution based on the error generated using the first codebook (*Fig. 2, Elements 230 and 240*). Ozawa further teaches a first codebook structure comprising a single codebook and a second codebook structure comprising multiple subcodebooks (*Fig. 2*) and mentions generating gain to be associated with a codebook contribution (*Col. 1, Lines 37-40*).

Gao and Ozawa are analogous art because they are from a similar field of endeavor in speech signal encoding. Thus, it would have been obvious to a person of ordinary skill in the art,

Art Unit: 2626

at the time of invention, to modify the teachings of Gao with the cascaded codebook structure taught by Ozawa in order to implement a speech coding scheme that reduces memory necessary for codebook storage and is high in performance (*Ozawa, Col. 2, Line 65- Col. 3, Line 5*).

Although the combination of Gao and Ozawa discloses all of the features of the claimed invention and Gao further discloses CELP coding/decoding (*Col. 8, Lines 5-7*), Gao and Ozawa do not specifically mention wideband speech signal processing. Laflamme, however, recites the ability to encode wideband speech using a CELP coding scheme (*Section 1, Page 13*).

Gao, Ozawa, and Laflamme are analogous art because they are from a similar field of endeavor in speech signal encoding. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Gao in view of Ozawa with the concept of wideband speech encoding taught by Laflamme in order to encode a higher quality speech signal (*Laflamme, Section 1, Page 13*).

Claim 12 recites the corresponding method performed by the system described in claim 11, and, thus is rejected under similar rationale.

With respect to **Claims 13-14**, Gao discloses the speech characteristics, as applied to claim 11.

7. **Claims 2-3 and 7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao in view of Ozawa further in view of Laflamme et al and yet further in view of Chhatwal et al (*U.S. Patent: 5,457,783*).

With respect to **Claim 2**, Gao in view of Ozawa and further in view of Laflamme discloses the speech encoder having an adaptive codebook and cascaded fixed codebooks, as

Art Unit: 2626

applied to Claim 1. Although Gao discloses selecting different types of codebooks for voiced/unvoiced speech (*subcodebook selection based on speech classification, Col. 6, Lines 27-39; and Fig. 2, Elements 261, 275, 279*), Gao in view of Ozawa and further in view of Laflamme does not specifically suggest the use of a random codebook for fricatives and an algebraic codebook for other speech sections, however Chhatwal discloses the use of an algebraic codevector codebook for voiced speech sections (*Col. 9, Line 65- Col. 10, Line 55*) and the use of a random codebook for unvoiced fricatives (*Col. 13, Lines 38-67; and Col. 15, Lines 1-30*).

Gao, Ozawa, Laflamme, and Chhatwal are analogous art because they are from a similar field of endeavor in speech signal encoding. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Gao in view of Ozawa and further in view of Laflamme with the specific codebooks taught by Chhatwal in order to provide a codebook capable of effectively modeling unvoiced signal classes (*Chhatwal, Col. 13, Lines 38-67*).

With respect to **Claim 3**, Chhatwal discloses the random codebook used for unvoiced fricatives and the algebraic codebook used for voiced speech, as applied to Claim 2.

Claims 7-8 contain subject matter respectively similar to claims 2-3, and thus, are rejected for the same reasons.

8. **Claims 5 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao in view of Ozawa further in view of Laflamme et al and yet further in view of Westerlund et al (*U.S. Patent: 6,757,654*).

With respect to **Claim 5**, Gao in view of Ozawa and further in view of Laflamme discloses the speech encoder having an adaptive codebook and cascaded fixed codebooks, as applied to Claim 1. Although Gao discloses multiple fixed codebooks having associated gains (*Fig. 2, Elements 261 and 263*), Gao in view of Ozawa and further in view of Laflamme does not specifically suggest encoding a second standardized fixed codebook gain and using that standardized gain in a ratio with other fixed codebook gain values. Westerlund, however, discloses such a ratio between standardized fixed codebook values and other codebook gains (*ratio or distribution comprising a long-term prediction gain and algebraic codebook gain, Col. 21, Lines 30-45*).

Gao, Ozawa, Laflamme, and Westerlund are analogous art because they are from a similar field of endeavor in speech signal encoding. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Gao in view of Ozawa and further in view of Laflamme with the ratio calculation taught by Westerlund in order to provide a predictor for algebraic codebook gain (*Westerlund, Col. 21, Lines 30-31*).

Claim 10 contains subject matter similar to Claim 5, and thus, is rejected for the same reasons.

Conclusion

9. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under

Art Unit: 2626

37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: See PTO-892.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/James S. Wozniak/

Patent Examiner, Art Unit 2626

/Patrick N. Edouard/

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